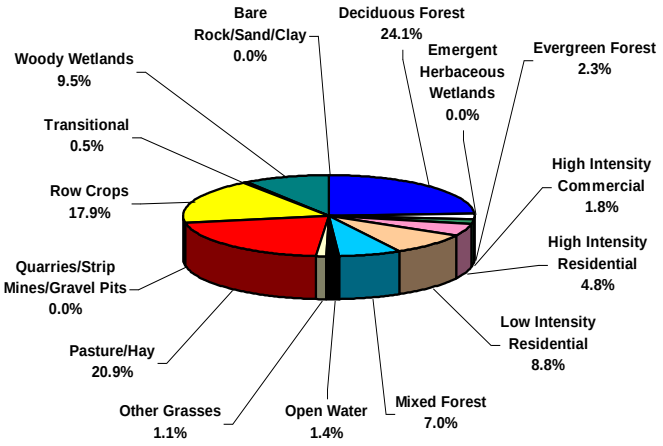
Summary – Wolf River

In 1996, the Tennessee Department of Environment and Conservation Division of Water Pollution Control adopted a watershed approach to water quality. This approach is based on the idea that many water quality problems, like the accumulation of point and nonpoint pollutants, are best addressed at the watershed level. Focusing on the whole watershed helps reach the best balance among efforts to control point sources of pollution and polluted runoff as well as protect drinking water sources and sensitive natural resources such as wetlands. Tennessee has chosen to use the USGS 8-digit Hydrologic Unit Code (HUC-8) as the organizing unit.

The Watershed Approach recognizes awareness that restoring and maintaining our waters requires crossing traditional barriers (point *vs.* nonpoint sources of pollution) when designing solutions. These solutions increasingly rely on participation by both public and private sectors, where citizens, elected officials, and technical personnel all have opportunities to participate. The Watershed Approach provides the framework for a watershed-based and community-based approach to address water quality problems.

Chapter 1 of the Wolf River Watershed Water Quality Management Plan discusses the Watershed Approach and emphasizes that the Watershed Approach is not a regulatory program or an EPA mandate; rather it is a decision-making process that reflects a common strategy for information collection and analysis as well as a common understanding of the roles, priorities, and responsibilities of all stakeholders within a watershed. Traditional activities like permitting, planning and monitoring are also coordinated in the Watershed Approach.

A detailed description of the watershed can be found in Chapter 2, to include information on location, population, hydrology, land use and natural and cultural resources. The Tennessee portion of the Wolf River Watershed is approximately 561 square miles and includes parts of three Tennessee counties. A part of the Mississippi River drainage basin, the watershed has 1,025 stream miles and 177 lake acres in Tennessee.



Land Use Distribution in the Tennessee Portion of the Wolf River Watershed.

There are four greenways and two wildlife management areas located in the watershed. Over twenty rare plant and animal species have been documented in the watershed, including three rare fish species and three rare mussel species.

A review of water quality sampling and assessment is presented in Chapter 3. Using the Watershed Approach to Water Quality, 234 sampling events occurred in the Tennessee portion of the Wolf River Watershed in 1999-2000. These were conducted at ambient, ecoregion or watershed monitoring sites. Monitoring results support the conclusion that 10% of total stream miles fully support designated uses.

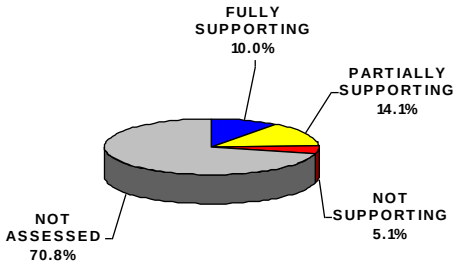


Figure 3-5. Water Quality Assessment of Streams and Rivers in the Tennessee Portion of the Wolf River Watershed. Assessment data are based on the 2002 Water Quality Assessment of 1,025.2 miles in the watershed.

Also in Chapter 3, a series of maps illustrate Overall Use Support in the watershed, as well as Use Support for the individual uses of Fish and Aquatic Life Support, Recreation, Irrigation, and Livestock Watering and Wildlife. Another series of maps illustrate streams that are listed for impairment by specific causes (pollutants) such as Siltation, Pathogens, Organic Enrichment/Low Dissolved Oxygen and Lead/Metals.

Point and Nonpoint Sources are addressed in Chapter 4. Chapter 4 is organized by HUC-10 subwatersheds. Maps illustrating the locations of STORET monitoring sites and USGS stream gauging stations are presented in each subwatershed.

Figure 4-1. The Tennessee Portion of the Wolf River Watershed is Composed of Three USGS-Delineated Subwatersheds (10-Digit Subwatersheds).

Point source contributions to the Tennessee portion of the Wolf River Watershed consist of 18 individual NPDES-permitted facilities, 11 of which discharge into streams that have been listed on the 1998 303(d) list. Other point source permits in the watershed are Aquatic Resource Alteration Permits (50), Tennessee Multi-Sector Permits (41), Mining Permits (3), and Ready-Mix Concrete Plant Permits (6). Agricultural operations include cattle, chicken, hog, and sheep farming. Maps illustrating the locations of NPDES and ARAP permit sites are presented in each subwatershed.

Chapter 5 is entitled *Water Quality Partnerships in the Wolf River Watershed* and highlights partnerships between agencies and between agencies and landowners that are essential to success. Programs of federal agencies (Natural Resources Conservation Service, U.S. Fish and Wildlife Service, U.S. Geological Survey and USCOE Memphis District), and state agencies (TDEC Division of Water Supply, and Tennessee Department of Agriculture) are summarized. Local initiatives of active watershed organizations (Tennessee Water Sentinels) are also described.

Point and Nonpoint source approaches to water quality problems in the Tennessee portion of the Wolf River Watershed are addressed in Chapter 6. Chapter 6 also includes comments received during public meetings, along with an assessment of needs for the watershed.

The full Wolf River Watershed Water Quality Management Plan can be found at: http://www.state.tn.us/environment/wpc/watershed/wsmplans/